



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

June 8, 2016

Wilfried Reuvekamp
Hilltop Dairy
48514 US Hwy 14
Elkton, SD 57026-6703

Re: Hilltop Dairy Manure Management System
Plans and Specifications Review:
As-built Plans – Sand Settling Lane and Wastewater Recycling Pump and Piping
Revised Plans – Dairy Calves, Holding Pond Crossover Piping and Barn 3 Modification

Dear Mr. Reuvekamp:

The Department of Environment and Natural Resources (DENR) has received four copies of as-built plans and specifications for completed modifications and revised plans and specifications for proposed modifications to your permitted manure management system. Your manure management system is located in the Southwest $\frac{1}{4}$ of Section 20, Township 110 North, Range 47 West, in Brookings County, South Dakota.

Hilltop Dairy currently has coverage under the *General Water Pollution Control Permit for Concentrated Animal Feeding Operations* (permit number SDG-0100007). The currently permitted manure management system is for housed lots confining a maximum of 3,800 dairy cattle, consisting of 2,300 mature dairy cows and 1,500 dairy heifers.

On October 10, 2006, DENR conditionally approved the proposed expansion of your dairy feeding operation to confine a maximum of 4,000 dairy cattle, consisting of 2,300 mature dairy cows, 1,500 dairy heifers, and 200 dairy calves, in housed and open lots. The proposed calf hutch pad (open lot) for the 200 dairy calves has not been constructed. The 200 dairy calves are not included in the currently permitted number of dairy cattle.

The existing manure management system consists of two freestall barns, a fresh cow barn, a hospital barn, a dry cow/heifer barn (Barn 3, with freestall housing in the west half and compost bedding areas in the east half), a combination holding area and milking parlor building, manure reception/pump pits, a solid manure separator, a solid manure stacking pad, piping, three holding ponds, a box culvert connecting Pond 1 and Pond 2, diversion dikes or channels, manure transfer piping (located in Sections 19, 20, and 30 of Township 110 North, Range 47 West), and 1.1 acres of drainage area. The three holding ponds meet general permit requirements with at least 365 days of liquid storage capacity. The compost bedding half of Barn 3 and the solid manure stacking pad provide at least 270 days of solid manure storage capacity.

The as-built modifications to the manure management system consist of:

- Eliminated the solid manure separator system and the use of separated manure solids as bedding inside the freestall barns;
- Installed a sand settling lane with a sand stacking apron to use sand for bedding inside the freestall barns. The settling lane and apron increased the drainage area to the holding ponds from 1.1 acres to 1.84 acres;
- The existing building previously used to store separated manure solids is now used to store sand; and
- Installed a floating pump in Pond 3 (the north holding pond) and two 12-inch PVC pipelines from this pump connected to the existing wastewater recycling and flume systems in the existing freestall barns.

The proposed revisions to the manure management system consist of:

- Relocating the 200 dairy calves which were to be confined in calf hutches on a calf hutch pad to the existing freestall barns;
- Removal of two existing 24-inch HDPE pipes between Pond 2 (the middle holding pond) and Pond 3 (the north holding pond);
- Installing four new 18-inch PVC pipes, with inline flow boxes/level control structures, between the three existing holding ponds (two pipes between Pond 1 and Pond 2 and two pipes between Pond 2 and Pond 3). Concrete chutes/splash pads will be installed at both ends of each pipe; and
- Installing concrete floors in the current compost bedding areas in the east half of existing Barn 3. These areas currently have an 18-inch clay liner which will be maintained beneath the concrete floor.

With the as-built modifications and proposed revisions to the manure management system, the three existing holding ponds will continue to meet general permit requirements with at least 270 days of liquid storage capacity. The existing solid manure stacking pad will provide at least 270 days of solid manure storage capacity.

We have reviewed and hereby conditionally approve the as-built plans and specifications and the revised plans and specifications. Requirements that you must implement are listed on the attached pages. If significant deviations from the approved plans and specifications are required, those changes and change orders must be approved by the department prior to construction. A complete set of as-built plans will be required if there are any deviations from the approved plans and specifications during construction.

Two copies of the approved plans and specifications are being kept for our file. Please replace the appropriate pages in your plans and specifications booklet with the pages enclosed with this

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letter and add any additional pages enclosed with this letter into your plans and specifications booklet.

Upon completion of construction of any of the proposed modifications, a Notice of Completion must be submitted to the department. **After receiving a Notice of Completion and conducting a satisfactory construction inspection, the department will issue an updated Certificate of Compliance and coverage under the general permit for the completed modification. You cannot increase your animal numbers above the currently permitted maximum until DENR has issued an updated Certificate of Compliance and coverage under the general permit for the proposed increase.** Continued compliance is dependent upon you performing proper operation and maintenance activities. You will be liable for any noncompliance with applicable South Dakota environmental laws or regulations.

Our review is primarily to assure that the system meets the requirements of the general permit and does not cover items such as, quality of material, structural soundness, electrical, and mechanical design features. Approval of the plans and specifications does not in any way release the producer from the responsibility that the project will be an operable facility when construction is completed.

If you have any questions regarding the content of this letter, please contact Keith Miller, Feedlot Permit Program, at (605) 882-5111. Thank you for your cooperation.

Sincerely,



Kent R. Woodmansey, PE, Engineering Manager
Feedlot Permit Program
Ph. (605) 773-3351

Enclosures: Construction Schedule postcard
Notice of Completion form

Cc: Brad Woerner, PE, Stockwell Engineers, Inc., 215 Walnut Street, Yankton, SD 57078
Luke Muller, FDALG, PO Box 1207, Watertown, SD 57201
✓ Brookings County Commissioners
Brookings County Planning and Zoning

REQUIREMENTS

The following requirements must be implemented before we will issue an updated Certificate of Compliance and coverage under the general permit for the proposed modifications to your manure management system. Failure to implement these requirements will invalidate this approval.

Plans and Specifications

The plans and specifications review is to determine whether seepage, storage, and other design requirements will be met.

1. Inter-pond Piping

On May 1, 2014, DENR conditionally approved revised plans and specifications for the proposed installation of two inter-pond pipes between the three existing holding ponds. The approved plans specified the pipes would be 12-inch PVC pipe. During an inspection in August 2014, DENR staff learned that one 24-inch corrugated dual-wall HDPE pipe had been installed between Pond 2 and Pond 3, near the west end of the shared embankment. **DENR no longer approves of the use of corrugated dual-wall HDPE pipe as inter-pond piping.**

The revised plans and specifications call for the removal of two existing 24-inch corrugated dual-wall HDPE pipes between Pond 2 and Pond 3, one installed in 2008 near the east end of the shared embankment and the pipe installed in 2014. The revised plans and specification specify that 18-inch PVC piping will be used for the four proposed inter-pond pipes. **If you plan to change the type of pipe from what is shown in the approved plans and specifications, you must consult with your engineer and DENR to ensure the proposed change can be approved by DENR.**

2. Inline Flow Boxes

The revised plans and specifications for the proposed installation of four inter-pond crossover pipes include the installation of inline flow boxes. Your engineer has indicated these inline flow boxes will be Agri-Drain structures. **Please submit as-built plans/documentation for the actual installed inline flow structures to DENR.**

3. Testing of Repaired Holding Pond Compacted Earthen Liners Required

Installation of the four proposed inter-pond pipes will involve disturbing the existing compacted earthen liners in the three holding ponds at eight different locations. To ensure the compacted earthen liners are repaired properly, **the results of either compaction or permeability testing showing the repaired clay liner meets general permit requirements, at each location where the liner is disturbed, must be submitted with the Notice of Completion.**

REQUIREMENTS CONTINUED

General Permit

You will be required to operate your feeding operation and manure management system in accordance with the requirements in the general permit.

1. Notifications

Construction Schedule – You or your engineer must notify the department of the proposed construction schedule for your project to allow our personnel the opportunity for construction inspections. Please fill out the enclosed postcard and return it to us prior to beginning construction of any new manure management system components. If any of the dates change from the ones submitted on the postcard, please notify Keith Miller at (605) 882-5111.

Other Government – You are responsible for contacting your local planning and zoning office to determine if there are any local ordinances or requirements with which you need to comply. If a stream, lake, or wetland will be dredged or filled during the construction of the feeding operation, then you need to contact the United States Corps of Engineers at (605) 224-8531 prior to construction of the manure management system.

Notice of Completion – The enclosed Notice of Completion form must be completed by your engineer and returned to the department as you complete construction of additional approved components of your manure management system. The department cannot issue you an updated Certificate of Compliance and general permit coverage for newly constructed portions of the manure management system until we receive a Notice of Completion.

2. Phosphorus-Based Nutrient Management Plan (NMP)

A. Revised Initial NMP Submitted

The submittal included a revised initial NMP (form SD-CPA-7) updated for the as-built modifications and proposed revisions to the manure management system. No new fields were added to the currently approved NMP. The revised NMP shows that you will continue to have adequate acres available for manure application to meet general permit requirements.

B. NMP Field Addition Requirements

To add fields to your approved NMP, you must submit the required information for each additional field to the department for our review and approval. Required documentation includes the calculation of a RUSLE value for each field to be added. You may visit our website at <http://denr.sd.gov/des/fp/fieldadditions.aspx> or contact us at (605) 773-3351 for instructions on adding fields to your NMP. Information on adding fields to your NMP may also be obtained from your local NRCS office. **You may not apply manure to any fields not included in your approved phosphorus-based NMP.**

3. Setback Distances and Water Wells

The manure containment system and the manure application sites must be located at least 150 feet from a private well owned by you, 250 feet from a private well not owned by you and

REQUIREMENTS CONTINUED

1,000 feet from any public water supply well. These setback areas cannot be included in the manure land application areas.

4. Other Permits That May or Will Be Required

Storm Water Permit – A general storm water construction permit will be required if your project construction will disturb more than one acre in total land area. Information concerning this permit can be obtained by calling William Marcouiller at 1-800-737-8676. If a permit is required, a copy of your storm water pollution prevention plan must be kept on site during construction and be available for review by DENR inspectors.

Permit to Occupy Right of Way – If manure application will involve placing hoses or other equipment in a state highway right of way (for example, in a road ditch or through a culvert), you must first obtain a Permit to Occupy Right of Way. Application for this permit may be made through the local South Dakota Department of Transportation area office. Contact your local SD DOT area office for more information on this permit. In addition, please contact your county highway superintendent to determine if your county has similar requirements.

Emission Reporting – Depending on the estimated quantity of emissions of hazardous substance from your facility, you may be required to submit a continuous release report to the State Emergency Response Commission and Local Emergency Planning Commission. Information regarding emission reporting and how to determine if you need to submit a report is available by contacting Trish Kindt with DENR, at 1-800-433-2288, or on our website at http://denr.sd.gov/des/gw/SARATitleIII/Emissions_from_Animal_Waste.aspx.

Emergency Power Generator – The department has observed that emergency power generators have been installed at similar sized operations. If an emergency power generator will be installed at your operation it may require that you obtain an air quality permit. Please contact Earl Berg with the department's Air Quality Program, at (605) 773-3151, to determine whether an air quality permit is required. If an air quality permit is required, you must have that permit prior to using the generator.

Greenhouse Gas Reporting – Manure management systems emitting at least 25,000 metric tons of CO₂ equivalent per year may be required to report to the federal Environmental Protection Agency. For more information contact Mark Komp with EPA, Region 8, at (303) 312-6022.